

# Solvent Recovery Standard Support Module (SSM)

## General Overview of the Solvent Recovery SSM

The Solvent Recovery SSM combines a commercially available solvent recovery instrument with the Fluid Transport SSM into one automated system for collecting, sorting, cleaning, and recycling substantial quantities of extraction solvent.

## Environmental Protection Agency (EPA) Method

None applicable.

## Standard Analysis Method (SAM)

This SSM supports any SAM system that uses organic solvents for sample processing.

## Advantages

This SSM supports the waste minimization and recycling goals of our government and private environmental laboratories. The collection, purification, and recycling of many extraction solvents are part of an automated process, which will save time and money and will reduce worker exposure to hazardous organic chemicals.

## General Description of the Solvent Recovery SSM

During the preparation of samples for analysis, substantial quantities of extraction solvent are used. The Solvent Recovery SSM is an automated instrument for reclaiming some of these solvents. Previously, part of this SSM was a commercially available instrument (Figure 1), which automated the solvent recycling. However, the collection was manually executed. The purification process was seldom accomplished at all, and the contaminated solvent became another waste stream. Through the addition of the Contaminant Analysis Automation (CAA) Fluid Transport SSM to the commercial recycling instrument, collection and pumping of both the input waste solvent and distilled clean solvent are possible in an automated fashion. The Fluid Transfer SSM directs solvents from various processes



Figure 1. The Solvent Recycling System.

within various SAM systems into the appropriate container. The system can accommodate three general classes of solvent: relatively clean rinse solvent, wash solvent, and process solvent.

Once a container is full, the Fluid Transfer SSM moves the contents of that container to the Solvent Recovery SSM, and the command to begin processing is received by the system controller. The SSM has a pumping capacity of up to 50 mL/min through 1/8-inch Teflon tubing. Processing times for the recycling system are dependent upon the condition of the solvent to be processed. The Solvent Recovery SSM is controlled via the Fluid Transfer SSM.

## Status

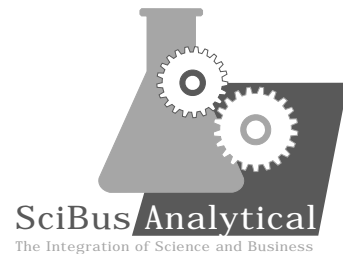
The objective of the CAA Program with respect to this SSM is to transfer this technology into industry, where it can be marketed. Transfer of this technology to the private sector through a license or a Cooperative Research and Development Agreement is negotiable.

## Industrial Partners

ABC Laboratories and SciBus Analytical, Inc.

## Developers

The Office of Research and Technology Applications, Idaho National Engineering Laboratory, developed this SSM.



*University of Florida*  
*University of Tennessee*  
*University of Texas*

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